

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

Permitting and Compliance Division  
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Flathead County Solid Waste District  
Flathead County Sanitary Landfill  
Sections 1 and 36, Townships 29 and 30 North, Range 22 West, Flathead County  
4098 Highway 93 North  
Kalispell, MT 59901

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

<b>Facility Compliance Requirements</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Source Tests Required	X		Method 22, Method 5, Method 7, Method 10A/ 10B
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		As Required
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
<b>Applicable Air Quality Programs</b>			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #2850-03
New Source Performance Standards (NSPS)	X		40 CFR 60, Subpart WWW
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart AAAAA
Major New Source Review (NSR)		X	
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP

## TABLE OF CONTENTS

<b>SECTION I. GENERAL INFORMATION .....</b>	<b>3</b>
A. PURPOSE .....	3
B. FACILITY LOCATION .....	3
C. FACILITY BACKGROUND INFORMATION .....	3
D. CURRENT PERMIT ACTION .....	4
E. COMPLIANCE DESIGNATION .....	5
F. TAKING AND DAMAGING ANALYSIS .....	5
<b>SECTION II. SUMMARY OF EMISSION UNITS .....</b>	<b>6</b>
A. FACILITY PROCESS DESCRIPTION .....	6
B. EMISSION UNITS AND POLLUTION CONTROL DEVICE IDENTIFICATION .....	6
C. CATEGORICALLY INSIGNIFICANT SOURCES/ACTIVITIES .....	7
<b>SECTION III. PERMIT CONDITIONS .....</b>	<b>7</b>
A. EMISSION LIMITS AND STANDARDS .....	7
B. MONITORING REQUIREMENTS .....	7
C. TEST METHODS AND PROCEDURES .....	8
D. RECORDKEEPING REQUIREMENTS .....	8
E. REPORTING REQUIREMENTS .....	8
<b>SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS .....</b>	<b>8</b>
<b>SECTION V. FUTURE PERMIT CONSIDERATIONS .....</b>	<b>8</b>
A. MACT STANDARDS .....	8
B. NESHAP STANDARDS .....	8
C. NSPS STANDARDS .....	9
D. RISK MANAGEMENT PLAN .....	9

## SECTION I. GENERAL INFORMATION

### A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the United States Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by Flathead County Solid Waste District (Flathead County) on December 13, 1999; significant modification applications submitted on May 9, 2001 and December 12, 2002; and a request for an administrative amendment submitted on September 26, 2003.

### B. Facility Location

The Flathead County Landfill is located within Section 1 and Section 36, Township 29 North and Township 30 North, Range 22 West, in Flathead County, MT.

### C. Facility Background Information

Preconstruction permit

On January 4, 1995, Flathead County applied for Permit **#2850-00** for the construction and operation of a Landtec Candlestick Flare at Flathead County's landfill located 9 miles north of Kalispell on Highway 93. The legal description of the facility's location is the NE $\frac{1}{4}$  of the NW $\frac{1}{4}$  of Section 1, Township 29 North, Range 22 West, in Flathead County, Montana.

Flathead County proposed to use the landfill flare system to combust landfill gas collected by a gas extraction system. The collected gas is composed mainly of methane, carbon dioxide, and other trace gases. The gas extraction system is being installed to comply with Resource Conservation and Recovery Act (RCRA) Subtitle D regulations, prevent the migration of gas into adjacent soils, and remove excess gas from within the waste mass to prevent vegetative stress, control odors, and maintain ground water quality.

On May 6, 1996, the Department of Environmental Quality (Department) received a request for a permit modification. Flathead County requested that their operational requirement to maintain a flare temperature of 1400°F be changed to operate and maintain a flare capable of meeting the requirements of 40 CFR 60.18. Preconstruction Permit **#2850-01** replaced Permit #2850-00.

In addition, New Source Performance Standard (NSPS) 40 CFR 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills was promulgated on March 12, 1996, and is applicable to Flathead County's landfill. A condition was added to Permit #2850-01 to address 40 Code of Federal Regulations (CFR) Part 60, Subpart WWW.

In 1999, the EPA informed the Department that any condition in an air quality preconstruction permit would be considered a federally enforceable condition. However, there are certain state rules that were never intended to be federally enforceable. The Department notified all facilities holding preconstruction permits that they could request deletion of those conditions based on the Administrative Rules of Montana (ARM) 17.8.717 and ARM 17.8.315. Removing either of these conditions did not relieve the facility from complying with the rule upon which the permit condition was based; removal only ensured that enforcement of the condition remained solely with the Department. The condition based on ARM 17.8.717 was removed from Flathead County's permit. Preconstruction Permit **#2850-02** replaced Permit #2850-01. Furthermore, the rule references and permit format were updated.

On June 27, 2001, Flathead County submitted a complete permit application for the addition of a new ground level flare, addition of 16 new wells, and removal of the existing candlestick flare at the facility. Potential emissions from the new flare were less than the de minimis level threshold of 15 tons per year, however, in accordance with the MCA 75-2-215(1): all incinerators, including the proposed flare, require an air quality permit prior to construction, installation, or operation. Preconstruction Permit **#2850-03** replaced Permit #2850-02.

#### Title V Operating Permit

On March 3, 2001, Flathead County was issued final and effective Operating Permit **OP2850-00** for operation of the Class II municipal landfill facility including a flare and associated equipment.

On May 9, 2001, Flathead County submitted a permit application for the modification of Title V Operating Permit OP2850-00. The modification included applicable changes made to Flathead County's facility since issuance of the facility's Operating Permit OP2850-00.

Flathead County added a new ground level flare, 16 new wells, and removed the existing candlestick flare at the facility. Potential emissions from the new flare were less than the de minimis level threshold of 15 tons per year, however, in accordance with the Montana Code Annotated (MCA) 75-2-215(1), all incinerators, including the proposed flare, require an air quality permit prior to construction, installation, or operation. Air quality Preconstruction Permit #2850-03 was issued final on September 5, 2001. Operating Permit **OP2850-01** was issued final on May 31, 2002, and replaced Permit OP2850-00.

On December 12, 2002, the Department received a complete request for a significant modification of Title V Operating Permit OP2850-01 for proposed changes to Operating Permit OP2850-01. Specifically, Flathead County requested the following changes be incorporated into the permit:

- The facility responsible official changed from Steve Johnson, former director, to David Prunty, Director;
- Flathead County requested a relaxation in the flare inlet concentration compliance monitoring (source testing) schedule from a semiannual to an annual requirement based on Department testing schedule guidance;
- Flathead County requested that the requirement in Section III.B.13, to conduct a weekly review of the continuous flowrate of landfill gas to the flare, be relaxed to a monthly review schedule, or more frequently as required by the Department. The required continuous flowrate information is digitally stored on a floppy disk, which has the capacity to store 30 days of information at which time Flathead County changes the disc for the next monitoring cycle. Flathead County requested that the required landfill gas flow rate review be conducted at the time of floppy disc changeover.

Under this permit action, the Department updated the Title V operating to incorporate all changes listed above. Title V Operating Permit **OP2850-02** replaced Permit OP2850-01.

#### D. Current Permit Action

On September 26, 2003, the Department received a request for an administrative amendment of OP2850-02 to update Section V.B.3 of the General Conditions incorporating changes to federal Title V rules 40 CFR 70.6(c)(5)(iii)(B) and 70.6(c)(5)(iii)(C) (to be incorporated into Montana's Title V rules at ARM 17.8.1213) regarding Title V annual compliance certifications. Operating Permit **OP2850-03** replaces OP2850-02.

#### **E. Compliance Designation**

The last complete inspection of the Flathead County facility was conducted on August 27, 2003. Flathead was found to be in compliance with their permit at that time.

#### **F. Taking and Damaging Analysis**

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications. The checklist was completed on September 26, 2003.

## SECTION II. SUMMARY OF EMISSION UNITS

### A. Facility Process Description

Flathead County operates a Class II municipal landfill. The facility consists of a landfill gas extraction system routed to a 2001 Perennial Energy, Inc. (PEI), enclosed ground flare with a capacity of 18 MMBtu/hr. The flare is capable of combusting 600 scfm of landfill gas (LFG) with 50% methane and has the ability to be upgraded to accommodate 1200 scfm of LFG, as more wells are installed. The system includes the following additional components:

1. Natural gas fired pilot assembly
2. One flare station blower capable of providing 600 scfm of landfill gas to the flare
3. Condensate knock-out vessel with particulate filter for landfill gas particulate removal prior to flaring
4. Flow meter used to monitor and help control the flare's operation
5. Miscellaneous piping and associated equipment used in support of the landfill gas extraction system

Flathead County proposed to construct a landfill gas extraction system and route the landfill gas to a flare for combustion. The installation of the complete system will be completed in three stages. Under Stage I, Flathead County constructed a perimeter network comprised of nine extraction wells, two condensate knockouts and holding tanks, and a flare-blower assembly.

Stage II consists of adding 16 additional extraction wells and replacing and relocating the existing candlestick flare with a new PEI enclosed ground level flare.

Stage III will consist of installing additional perimeter and interior extraction wells, condensate knockouts, and monitoring probes as necessary for the future western expansion area. This permit may need to be altered if any of the proposed extraction wells will result in an increase in the permitted amount of landfill gas that will be combusted by the flare or if these wells result in new pollutants being emitted.

The installation of this system will result in a variety of pollutants being emitted from the flare. The primary emissions will consist of carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), and volatile organic compounds (VOC). Further, there will be minor particulate matter (PM) and particulate matter with an aerodynamic diameter of less than 10 µm (PM<sub>10</sub>) emissions (<3 tpy), since there will be considerable efforts to remove the particulate from the landfill gas prior to flaring. PM and PM<sub>10</sub> will be removed through the use of knockout drums and demisters. In addition, a health risk assessment has been completed for VOC and Hazardous Air Pollutant (HAP) emissions resulting from flare operations. A description of the health risk assessment is contained in Section VI of the permit analysis for Flathead County's Montana Air Quality Permit and allowable VOC/HAP emissions, based on the health risk assessment, are contained in Table 1 of Flathead County's operating permit.

### B. Emission Units and Pollution Control Device Identification

The emission units regulated by this permit are the following (ARM 17.8.1211):

Emission Unit ID	Description	Pollution Control Device/Practice
EU001	Municipal Solid Waste (MSW) Landfill	Flare
EU002	Flare	None
EU003	Fugitive Dust from Vehicle Traffic	Reasonable Precautions

### C. Categorically Insignificant Sources/Activities

The following table of insignificant sources and/or activities were provided by Flathead County. Because there are no requirements to update such a list, the emission units and/or activities may change from those specified in the table.

Emission Unit ID	Description
IEU01	Tub Grinder

## SECTION III. PERMIT CONDITIONS

### A. Emission Limits and Standards

The Department determined that the Municipal Solid Waste (MSW) Landfill (EU001) is only subject to generally applicable emission limits. Applicable operational limits contained in Operating Permit #OP2850-02 were established in Flathead County's Preconstruction Permit #2850-03.

The Department determined that the emission limits that apply to the flare (EU002) are as follows: opacity = 0%; particulate matter = 0.10 gr/dscf corrected to 12% CO<sub>2</sub>; oxides of nitrogen (NO<sub>x</sub>) emissions = 5.74 lb/hr; and CO emissions = 18.40 lb/hr. The previously cited emission limits were established in Flathead County's preconstruction Permit #2850-03.

The Department determined that fugitive dust from vehicle traffic shall be limited to 20% opacity. Applicable operational limits contained in Operating Permit #OP2850-02 were established in Flathead County's Preconstruction Permit #2850-03.

### B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements be contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by lack of regular monitoring, and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (i.e., no monitoring) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by Flathead County to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

### **C. Test Methods and Procedures**

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, Flathead County may elect to voluntarily conduct compliance testing to confirm its compliance status.

The Department determined that a Method 22 visual observation, and stack testing in accordance with Method 5 and Method 6, as required by the Department, will be sufficient to demonstrate compliance with the opacity, particulate, and oxides of nitrogen emission limits contained in Operating Permit #OP2850-03. In addition, the Department determined that a Method 10A or Method 10B source test every 5 years is sufficient to demonstrate compliance with the CO emission limit in Operating Permit #OP2850-03. Finally, the Department determined that an annual inlet gas analysis source test will be sufficient to demonstrate compliance with the HAP (VOC) inlet concentration limits contained in Table 1 (Appendix F) of Operating Permit #OP2850-03.

### **D. Recordkeeping Requirements**

Flathead County is required to keep all records, listed in the operating permit, as a permanent business record for at least 5 years following the date of the generation of the record.

### **E. Reporting Requirements**

Reporting requirements are included in the permit for each emission unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, Flathead County is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

## **SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS**

Pursuant to ARM 17.8.1221, Flathead County did not request a permit shield for any regulatory requirements and/or regulatory orders.

## **SECTION V. FUTURE PERMIT CONSIDERATIONS**

### **A. MACT Standards**

The Department determined that this facility is potentially subject to 40 CFR Part 63, Subpart AAAA, Municipal Solid Waste Landfills. However, the Department determined that Flathead County is not a major source of HAPs; therefore, 40 CFR 63, Subpart AAAA, is not applicable to this source.

### **B. NESHAP Standards**

As of October 3, 2003, the Department is unaware of any currently applicable or future NESHAP Standards (except for 40 CFR 61, Subpart M, as explained below) that may be promulgated that will affect this facility.

Asbestos abatement projects and building demolition/renovation activities will be conducted in accordance with applicable asbestos regulatory requirements. Those regulatory requirements include, but are not limited to 29 CFR 1926.1101; 40 CFR 763 sections 120, 121, 124, and Subpart E; 40 CFR part 61,



Subpart M; State of Montana Asbestos Control Act 75-2-501 through 519 MCA; and State of Montana Occupational Health Rules ARM 17.74.301 through 406. State-accredited asbestos abatement personnel shall conduct the abatement of regulated asbestos-containing materials. Asbestos-containing waste materials shall be transported properly and disposed of in a State-approved landfill.

### **C. NSPS Standards**

The MSW Landfill (EU001) is subject to the applicable requirements of 40 CFR 60, Subpart WWW.

As of October 3, 2003, the Department is unaware of any other currently applicable or future NSPS Standards that may be promulgated that will affect this facility.

### **D. Risk Management Plan**

As of October 3, 2003, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR 68 requirements no later than June 21, 1999; 3 years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.